

## **Amendments to the Specification**

Please replace the paragraph beginning on page 19, line 17, with the following amended paragraph:

Another system in accordance with one embodiment of the present invention has now been disclosed. The system allows for the measurement of multiple leads while requiring the placement of only two pads. The system automatically cycles between the available leads in order to improve sensitivity in detecting ischemia. Therefore, less technical expertise is required to use the disclosed system for two reasons: (i) simpler electrode design (two pads) and (ii) simpler lead collections (automatic cycling between available leads). In one example, the system cycles between the V<sub>4</sub> and V<sub>5</sub> signal, thereby achieving an estimated sensitivity of ninety percent relative to a 12-lead ECG system.

Please replace the paragraph beginning on page 31, line 1, with the following amended paragraph:

Configuration 1107 can be used to measure the V<sub>2</sub> (or V<sub>1</sub>) lead, the V<sub>4</sub> and the V<sub>5</sub> (or the V<sub>5</sub> and the V<sub>6</sub>) leads, and lead II. Configuration ~~1103~~ 1107 places five electrodes on four pads. Electrode 1113, on the first pad, is positioned for RA, whereas electrode 1115, on the second pad, is placed at precordial position V<sub>2</sub> (or precordial position V<sub>1</sub>). Electrodes 1127 and 1129, on the third pad, are placed at one of two positions. They are either placed (i) at the V<sub>4</sub> and V<sub>5</sub> precordial positions respectively or (ii) at the V<sub>5</sub> and V<sub>6</sub> precordial positions respectively. Electrode 1131, on the fourth pad, is placed at electrode position LL. Electrodes 1113, 1115, 1127, 1129, and 1131 are connected to device 600 (Fig. 6). Then, lead selection between the V<sub>2</sub> signal (or the V<sub>1</sub> signal), the V<sub>4</sub> signal and the V<sub>5</sub> signal (or the V<sub>5</sub> and V<sub>6</sub> signals), and lead II are automatically determined by ECG-lead switch 604. Electrode configuration 1111 is identical to electrode configuration 1107 with the exception that electrodes 1127, 1129, and 1131 are combined onto a single pad to simplify the electrode configuration and make it easier for a user to properly arrange the electrodes. Electrode configuration 1109 is identical to electrode configuration 1111 with the exception that it includes only one of the precordial electrodes in the range V<sub>4</sub> through V<sub>6</sub> (*i.e.*, one of V<sub>4</sub>, V<sub>5</sub> and V<sub>6</sub>).